Guide to Making Better Molotovs, Explosive Fire Jars, and Other Improvised Incendiaries

Techniques and Tips on Producing the Most Effective Incendiary Devices, and Manufacture of Raw Materials

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Warning!

The procedures in this handbook and the resulting end-product are extremely dangerous. Whenever dealing with explosive or incendiary material special precautions should be followed in accordance with industry standards for experimentation and production of these materials. Failure to follow such industry standards may result in harm to life or limb. Nothing in this book is worth death. Therefore, the author disclaims any liability from any damages or injuries of any type that a reader or user of the information contained in this book may encounter. Use of the information in this book is at your own risk. At a minimum you should wear protective eyewear such as lab goggles, nitrile gloves, and a lab coat.

Introduction:

Welcome to the wonderful world of incendiary devices, or in other words, devices and materials that combust and create fire. Incendiary devices are safer to deploy than other tools such as high explosives, and are also highly effective in protests as both a symbol and protection device. Building and or the use of incendiary devices are generally considered illegal and as a controlled weapon. Though practically speaking they are impossible to control. *Especially as protestors are advised to wear all black including face coverings and prevent identification at all costs.* Incendiary devices are a big responsibility. **I recommend you also utilize The Anarchist Arsenal on Incendiary devices by David Harber and the TM 31-201-1 Unconventional Warfare Incendiaries PDFs.**

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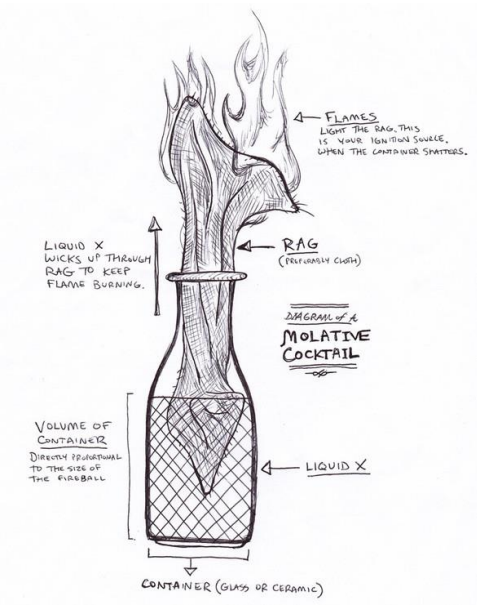
The Molotov Cocktail, Fire Bomb, Petrol Bomb, Poor Man's Grenade:

The Molotov is a hand thrown incendiary weapon constructed from a breakable container filled with flammable substances and equipped with a fuse. Molotovs are by far the easiest improvised incendiary devices only requiring a few extremely common parts. Many militaries today use the Molotov. The name Molotov cocktail was coined by the people of Finland during the Winter War (WW2) against Soviet Russia. At this time Soviet Russia was dropping incendiary cluster bombs on Finland, while Russian propagandist Vyacheslav Molotov said these were actually "humanitarian food deliveries". Leading the Finns to sarcastically declare the incendiary bombs "Molotov bread baskets". When the hand-held bottle firebomb was developed to attack and destroy Soviet tanks, the Finns called it a "Molotov cocktail", as a drink to go with Vyacheslav Molotov's "food parcels". Molotovs are particularly effective when thrown into buildings through entrances such as windows.

Easy Molotov Guide:


FLAMES
LIGHT THE RAG. THIS IS YOUR IGNITION SOURCE. WHEN THE CONTAINER SHATTERS.
LIQUID X WICKS UP THROUGH RAG TO KEEP FLAME BURNING.
RAG
(PREFERABLY CLOTH)
DIAGRAM OF A MOLATIVE COCKTAIL
VOLUME OF CONTAINER
DIRECTLY PROPORTIONAL TO THE SIZE OF THE FIREBALL
LIQUID X
CONTAINER (GLASS OR CERAMIC)

Molotov Supplies:

+ **Easily Broken Glass Bottle**

+ **Incendiary Fuel Mixture (described below)**

+ **Cloth Rag / Wick, OR Stormproof matches:**
two wrapped around bottle, taped in place such as the UCO Titan Stormproof matches, Zippo Typhoon matches, or matches wrapped around a sprinkler firework.

Incendiary Fuel Mixtures:

Multiple options are available for the creation of the fuel mixture from least to most effective and ease of manufacture for the average person.

+ **Gasoline** - burns great but does not stick well and goes away fast.

+ **Gasoline and Conventional or Synthetic Motor Oil** mixed in - sticks a bit better and lasts longer.

The ratios are as follows: 2/3 Gasoline to 1/3 Motor Oil

+ **Gelled gasoline** [poor man's napalm] - melted bar soap chips or soap powder (not detergent) mixed with gasoline works best, another option is polystyrene mixed in gasoline and some acetone to dissolve more polystyrene.

Recipe is as follows: Using a double boiler (proper or makeshift) bring water to a boil. Fill the upper pot with the following: soap chips, when the soap chips have completely melted, mix in gasoline until pot is half full and maybe a little motor oil (up to you to test). Stir mixture until it thickens into a paste. Make sure there is plenty of ventilation.

Incendiary Fuel Mixtures Cont:

+ **Napalm Type B** - literally napalm. This stuff can be extremely effective and works very well but requires a somewhat restrictive ingredient.

The recipe is as follows: 1/4 Gasoline, 1/4 *Benzene*, and 2/4 Polystyrene from Styrofoam cups, packing peanuts.

Fill the container half full of gasoline and benzene, then put in polystyrene material, cap, and shake until fully dissolved. Repeat until desired consistency is reached (not too thick, not too thin).

Benzene production is described at the end of this guide.

+ **Gasoline and sulfuric acid** - this is a special version of the Molotov that ignites on impact due to a reaction between sulfuric acid and potassium chlorate.

Sulfuric acid production and potassium chlorate production are described at the end of this guide.

Putting the Molotov Together:

1) The easiest Molotov to put together involves choosing a fuel mixture above and inserting a **cloth rag** making sure it touches the fuel mixture (to act like a wick), and the wick is also soaked in gasoline. When ready to use, simply light the wick and throw. Be careful about throwing overhand as you can accidentally cover yourself in burning fuel.

2) The second easiest Molotov to put together involves the use of storm matches. Storm matches such as the UCO Titan brand or Zippo Typhoon are wind and rain resistant which allows you to throw the bottle without the use of a wick, making it easier and safer to throw overhand. You can create your own storm matches by using a sparkler with matches wrapped around it.

3) A third method of ignition is through chemical reaction using sulfuric acid and potassium chlorate. Wrap cloth or absorbent paper around the bottle. Fill 2/3 of the bottle with gasoline, and slowly fill with concentrated sulfuric acid until within an inch of the top. Prepare a saturated solution of granulated sugar and potassium chlorate in water. To make the solution bring six measures of water to a boil. Add one and a half measures of sugar, and one measure of potassium chlorate. Store in separate bottle. To use the Molotov, pour solution on cotton outside bottle before throwing.

Easy Acid Delay Fuses:

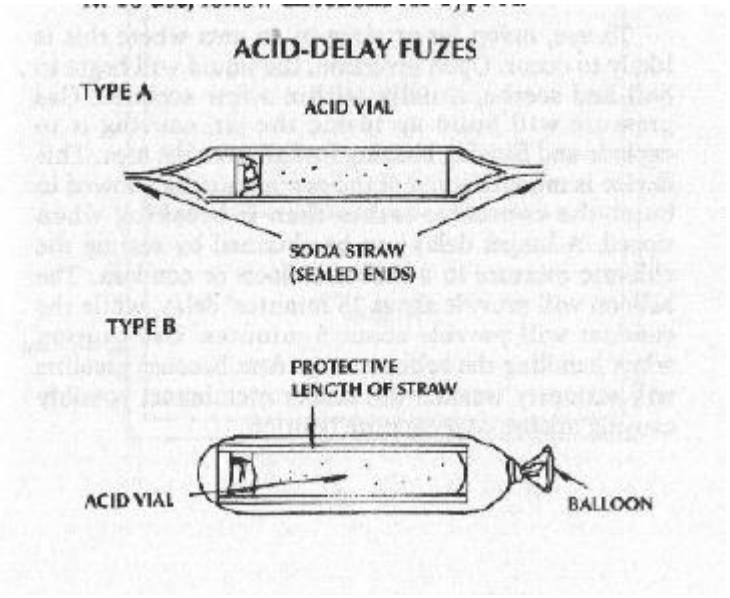
These are long delay fuses that can be used in a myriad of explosives and incendiaries. For this I defer to *The Anarchist Arsenal* by David Harber.

These easy-to-use acid delay fuses are recommended when you need a longer time for your incendiary or explosive to go off.

A small vial of sulfuric acid is enclosed in a barrier material. The vial must be a thin, fragile glass that can be easily crushed, such as a small tubular light bulb or a small smelling-salts vial. You can also make your own vials by taking hollow glass rods and using a torch to pull apart and close the ends. You must take care to ensure the vial does not leak. If there is a hole you need to seal, you can also use wax or silicon to cover the hole as sulfuric acid will not react with it (test before doing so).

Type A: Acid vial is placed inside of a soda straw sealed on both ends.

Type B: Acid vial is placed inside an uninflated balloon with a structurally protective length of straw or material around it.



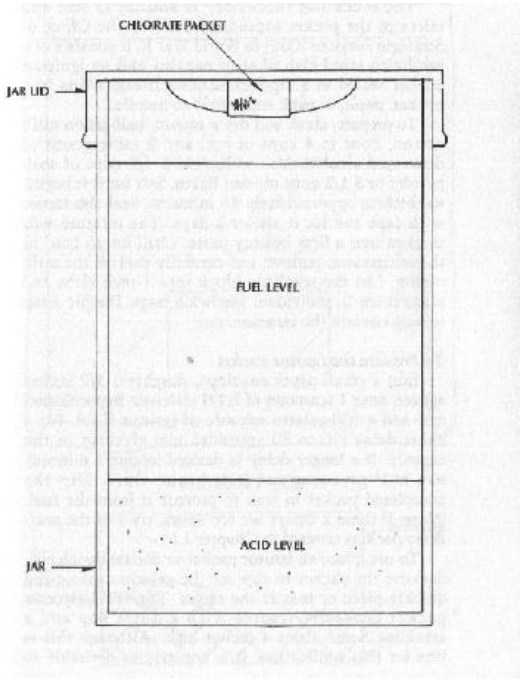
Easy Explosive Fire Jar:

A device that is ideal for placing behind doors, in stairwells, or other places where it is likely to be tipped over easily and accidentally.

Attach a packet made of a thin plastic sandwich bag material filled of potassium chlorate/sugar powder to the inside lid of a jar using tape or glue.

Add an incendiary fuel and sulfuric acid to the jar. A mix of roughly 2/4 fuel, 1/4 acid, and 1/4 air space. Make sure there is a gap between this mixture and the packet! Cap jar tightly and be careful not to tip the jar over yourself.

When the jar tips over, the acid eats through the thin plastic and reacts with the potassium chlorate mixture to combust and set the entire payload alight. Gas pressure builds up inside the jar and will cause it to explode.



Lunch Bag Incendiary:

The lunch bag incendiary consists of a slab of a thickened incendiary fuel such as gelled gasoline or napalm and an ignition packet sealed in a zip-lock sandwich bag. Make sure the consistency of the fuel is like a thick buttery paste after cooling and cut to size.

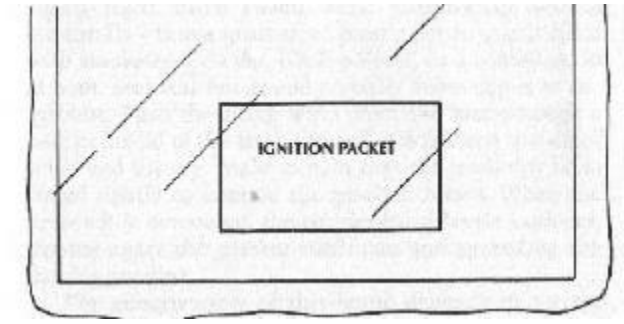
Cut into slabs that can fit inside of a lunch bag. This is the napalm slab part of the incendiary.

Prepare an ignitor packet:

The ignitor packet consists of a small paper envelope (can be makeshift) containing 1 teaspoon of calcium hypochlorite (very easy to obtain as it's used in pools), and add a gelatin capsule filled with ignitor fluid. Dip the completed packet in wax to protect it from the fuel if you can. You can also use an acid based delay.

To use place the ignitor packet in the sandwich bag and squeeze the packet to rupture the gelatin capsule, then quickly place or toss at target.

If a hotter flame is desired to ensure ignition, replace the teaspoon of calcium hypochlorite with a mixture of 1/2 calcium hypochlorite and 1/2 potassium chlorate.



Fire Logs Incendiary:

Fire logs are primarily made up of wax and sawdust. Very simple ingredients and very inexpensive. Buy the cheapest fire logs that you can, as the only difference between these and more expensive ones are the smells and how nice the flame looks. These can be used to make extremely hot incendiaries for burning those things which are hard to burn.

The logs generally come in 3 and 6 pound sizes. Cut these into 1 pound chunks. Place each chunk in a paper lunch sack and heat in a microwave oven for 3 to 5 minutes on 50% power [defrost] until the log breaks apart. Time will vary. If this is not desired you can use a standard oven heated to 250 degrees for 10 minutes. Watch the sack carefully and immediately remove if it begins to smoke. Break up the chunk until it forms a loose, course mixture resembling manure fertilizer. You can use a fork or other utility to break the chunks.

While still warm, adding 1/2 cup of powdered charcoal or flour can be added to increase incendiary effect. Simply add to the bag to the warm mix and shake.

The bag can be lit with a match, lighter, or delay ignitor. It will burn slowly at first, then faster with an increasingly hotter flame. Fire logs are common and easy to obtain.

Sodium Hydroxide (Lye):

(precursor to benzene and napalm)

This stuff is extremely easy to buy in bulk off Amazon and from other stores. It is used to produce soaps, paper, exploding products, petroleum products, laundry and bleaching, metal cleaning, oxide coating, etc. I recommend simply purchasing it. It can also be produced through electrolysis.

Sodium Benzoate:

(precursor to benzene and napalm)

This stuff is extremely easy to buy in bulk off Amazon and from other stores. It is a very common food additive.

Cheap Concentrated Sulfuric Acid:

Materials:

+ **Organic Chemistry Distilling Equipment Recommended! + Some Chemistry Glassware**
+ **Magnetic Stirring Hot Plate, or Heating Mantle**
+ **Drain Cleaner Containing Sulfuric Acid**
+ **Hydrogen Peroxide (12% Recommended)**
+ **Vacuum Grease Recommended**
+ **Boiling Chips Recommended**

Ingredients:

+ **Drain Cleaner with High Sulfuric Acid Content**
+ **Hydrogen Peroxide (12% Recommended)**

Procedure 1:

(in my opinion procedure 2 is superior but it requires more equipment to perform the distillation)

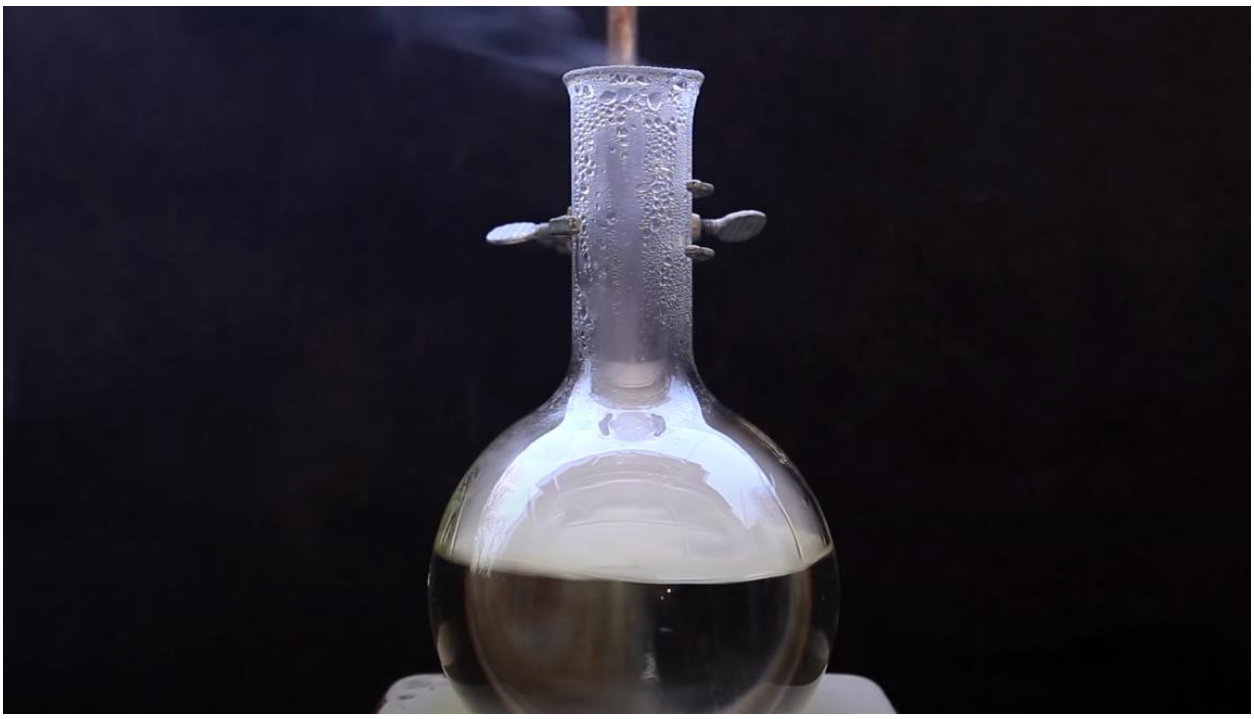
Do this outside or in a well ventilated area!

Fill a one liter boiling flask (flat bottom) half-way max. Put in a stirring bar and begin stirring.

Transfer concentrated hydrogen peroxide to a beaker.

Slowly pour in the hydrogen peroxide with heavy stirring. Make sure not to add too much at one time as the reaction is highly exothermic and **boiling sulfuric acid will instantly char and ruin your skin if it explodes**. As hydrogen peroxide is added the sulfuric acid reacts in an equilibrium reaction to create Piranha Solution (Caro's Acid) which will react with and destroy everything else in the drain cleaner through complete oxidation.

Procedure 1 Cont:



(notice how the flask is clamped in place!)

Take out stirring bar with a magnet and put in some boiling chips. Then crank up the heat and boil the solution. A lot of bubbles will come out of the solution. Bubbling will slowly die down and acid is becoming concentrated.

After awhile all the water should be gone. At 98% sulfuric acid concentration the sulfuric acid will start to form an azeotrope of water meaning it will not get any more concentrated, and the end of the reaction can be hard to tell and is a judgement call.

Let it cool! You can then determine the concentration by measuring the density. Or pour some of it on a paper towel and you can pretty obviously tell if it’s concentrated.

Procedure 2:

(the superior method in my opinion)

Make sure to do in a well ventilated area.

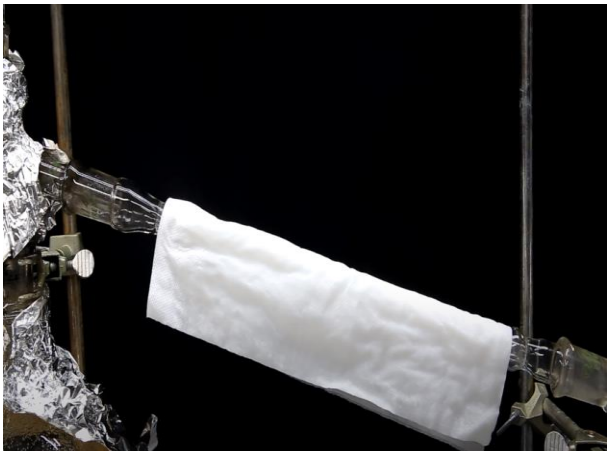
Fill a one liter round bottom flask half-way max. Add some boiling chips or sand to the flask. Have flask clamped to stand and on top of a hot plate or heating mantle. Clean the glass joint. To better contain heat, consider covering the flask and joint above in aluminum foil

Note: use vacuum grease when connecting the joints of the distillation setup!

Hot sulfuric acid on its own is able to oxidize the other components of the drain cleaner on its own, making using peroxide irrelevant in this setup.

Note: the distillation column does not need to be hooked up to a cold water pump. However you can add a damp paper towel over the column if desired. You may need metal clamps to hold the apparatus together.

Procedure 2 Cont:



At first you may only be getting water distilled over. You should notice an effect similar to oil being mixed in water where you can see different densities. Once you get to this point you are collecting sulfuric acid.

Making sure you only get high concentration distillate is not really necessary for what sulfuric acid is needed for when it comes to incendiary devices. It can be concentrated by a boiling step anyway if needed.

Important! Make sure gasses are being neutralized in case the column does not condense all of the acid. This is easy to do by doing connections like the above into water.

Congratulations! You now have cheap sulfuric acid.

Potassium Chlorate Production:

Materials:

+ Large Pyrex Dish

+ Large Magnetic Stirring Hot Plate

+ Potassium Chloride (easy to buy as a salt substitute)

+ Boiling Chips Recommended

+ Glass Funnel, Filter Paper

+ Platinized Titanium Anodes (larger surface is better) and a large titanium electrode strip. (procedure 2)

+ Lab power supply (procedure 2)

+ Bleach (NaClO)

Ingredients:

+ Potassium Chloride

+ Bleach

Procedure 1:

Fill large pyrex dish with bleach. Add boiling chips or large magnetic stir bar to promote boiling of the bleach. Put on top of a large hot plate. Quick and easy but not efficient.

As the bleach boils it is performing the following reaction:

NaClO → NaCl (table salt) + NaClO3 (sodium chlorate)

Will stand in solution until majority of water is boiled out at which point solution will begin to crystalize. When you get to this point turn off the heat.

Let it cool, as it cools it will form a crust of crystals on top. Feel free to gently stir with a glass rod.

Once the solution is cool pour it into the filtered funnel to separate out the NaCl.

Procedure 1 Cont:

This filtered solution is NaCl and NaClO3. We want to turn the sodium chlorate into potassium chlorate KClO3.

To do this we will need to add potassium chloride. Potassium chloride is a salt substitute and extremely easy to buy in bulk.

Make a saturated solution of potassium chloride in water roughly the same amount as the filtered solution above. Speed up with a little stirring and heat. The solution should be cloudy and will need to be filtered.

Use the same filtering apparatus used before to filter the NaCl and NaClO3 mixture and filter it directly into the collecting used to mix the two together. KCl + NaClO3 → NaCl + KClO3

Take the solution and leave in fridge overnight to cool.

Procedure 1 Cont:

The next day check the solution you cooled overnight. You should see a nice layer of chlorate crystals that have precipitated out of the solution.

Decant the liquid into another beaker. You are now left with a bunch of nice potassium chlorate crystals, yay! You can try to boil down the solution and recrystallize again to potentially improve yield but it may be full of impurities.

Above is potassium chlorate mixed with sugar reacting with concentrated sulfuric acid. Leading to combustion.

Procedure 2:

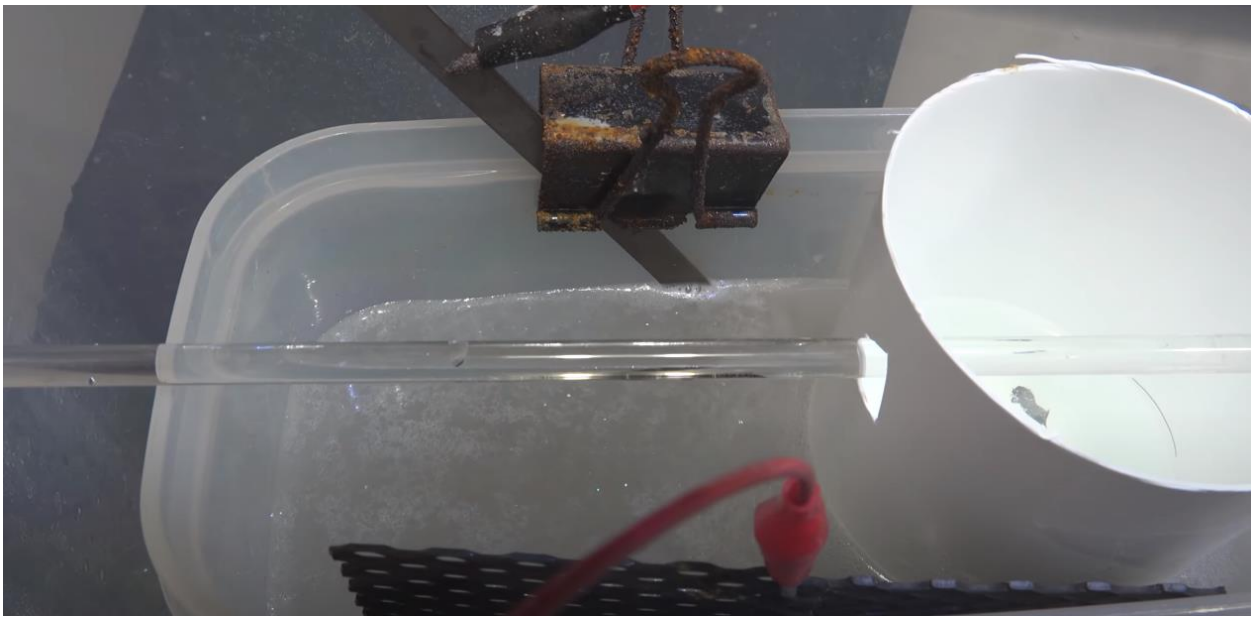
(more complex pure bulk production)

Electrolysis. Doing this with potassium chloride generates flammable and explosive hydrogen gas, as well as toxic chlorine gas. This should be done in a well ventilated area.

Electrolysis will make the following reaction occur:
$H_2O + KCl \rightarrow KClO_3 + H_2$

The anodes are the most important part of this process. Do not buy cheap crap for this. Buy real platinum coated titanium anodes. The electrolysis process is highly corrosive to most other anodes.

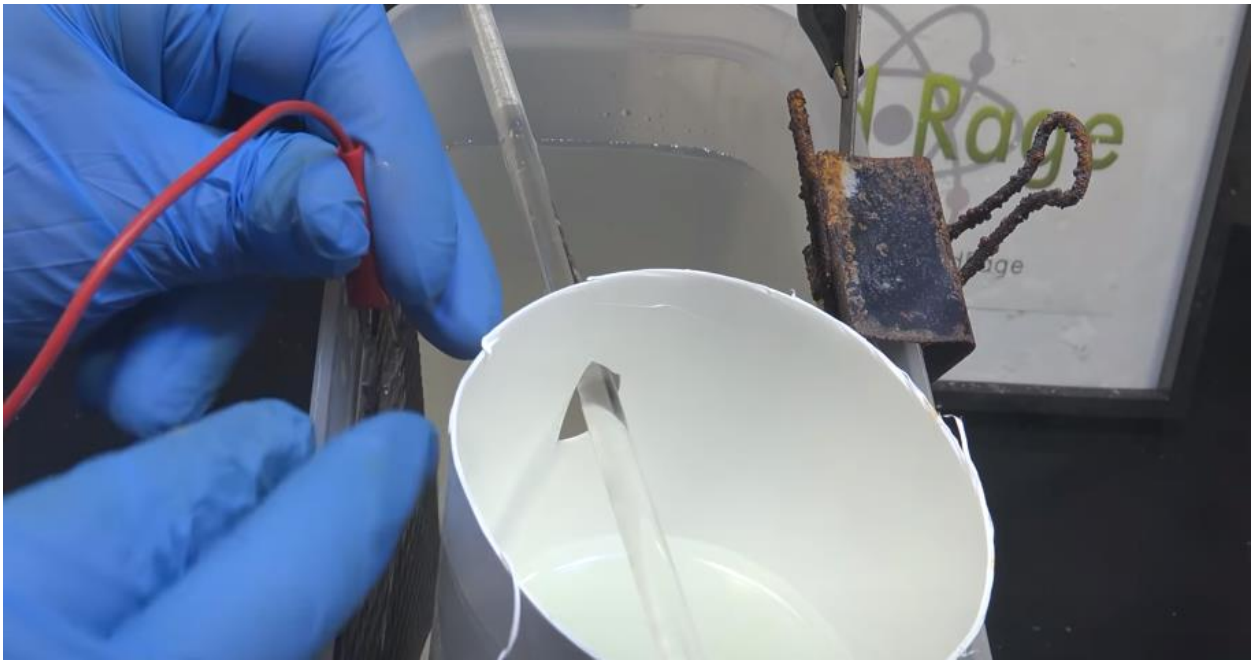
The finished chlorate cell looks like below:



The plastic salt cup is used for putting in **potassium chloride**, though this is not strictly necessary and you can simply regularly stir in potassium chloride which is more of a manual process. The anodes used here are MMO anodes and can be difficult to obtain. Bottom has cutouts below the water line, can add salt to it and slowly dissolve.

Procedure 2 Cont:

Use a plastic container larger than your electrodes. This is to maximize the surface area of the anodes thereby making more potassium chlorate faster. Try keeping the anodes off the bottom of the container as potassium chlorate crystals will form on the anodes and hinder efficiency of the process. A large titanium strip or stainless steel will work for the cathode. Titanium is preferred. Use a narrow and thin cathode or mesh to encourage hydrogen formation and discourage chlorate reduction.



Negative to cathode, positive to the anode. You can use this set up in the open but hydrogen gas and chlorine gas will be produced which requires good ventilation. Or you can build a separate box to contain the entire set up and have a separate pump to move air outside using a tube.

The maximum voltage should be 6 volts. Set current to 2 amps. As the process goes on the voltage will rise. Do not let it go past 6 volts or it will damage the anodes.

Procedure 2 Cont:

A small amount of potassium dichromate can be used to suppress unwanted side reactions but is not necessary.

To maintain efficiency and limit wear on the electrodes replace the potassium chloride as it is consumed to produce potassium chlorate.

Measure the density of the solution to know when to add more potassium chloride about once every week. Density = Mass / Volume. Saturated KCl density at room temperature is roughly ~1.16 g/mL. Top up the solution when the solution reaches or is below ~1.1 g/mL. A rough estimate of this is adding 10g KCl per 100ml solution in the eloctrolysis cell. Do not let the density get too low as lack of ions will also damage the electrodes.

The improvised salt cup is recommended as it prevents the potassium chloride from getting trapped in the precipitating crystals of potassium chlorate.

When finished decant the solution and filter out the crystals to air dry. The solution can be kept to be continually reused.

If you are done with the solution completely you can squeeze out a bit more potassium chlorate by boiling the solution. When it reaches a rolling boil turn off the heat. The remaining small amount of potassium chlorate will crystalize out of the final solution.

You can let the cell continuously run and continue to generate nearly pure potassium chlorate crystals!

Benzene Production:

A colorless and highly flammable liquid. A component of crude oil, styrene, nitrobenzene and napalm. Warning! Benzene is a carcinogen and toxic. Handle with extreme care as this chemical can be deadly!

Materials:

+ **Organic Chemistry Distilling Equipment**

+ **Magnetic Stirring Hot Plat**

+ **Empty Paint Can**

+ **Sodium Benzoate**

+ **Sodium Hydroxide**

+ **Teflon Tape**

Ingredients:

+ **Sodium Benzoate** with 62.5% * grams, a common food additive and extremely easy to buy large quantities.

+ **Sodium Hydroxide** with 37.5% * grams, a common chemical which can be brought or produced.

Procedure:

Add sodium benzoate to a pestle and mortar. Crush until a fine powder (as much as possible). A coffee grinder could be used alternatively, or the sodium benzoate could be bought in powder form. Put finished powder in a beaker.

Add sodium hydroxide beads to mortar and pestle. Also crush until a fine powder. Mix this powder in the same beaker as the sodium benzoate. Mix with either metal or glass spatula or pour powder in a zipped bag until thoroughly mixed. Put the finished powder in an empty paint can.

Put lid back on after creating a hole in the center of the lid (such as by hammering a screwdriver through the lid). Add glass adapter with a generous amount of Teflon tape wrapped around the base. Make seal as tight as possible.

Procedure Cont:

Put together the full apparatus using the following as a guide for obvious reasons MOVE THE SETUP OUTSIDE when you finish completing it:

What is pictured: A simple distilling setup with a camping stove used as the heat source under the paint can. Above this is a sealed split leading through a simple water column (this is important! use something like an aquarium pump to push cold water with some ice through the column). Leading to another split with an open gas release and into a round bottom flask. The point of this setup is that the benzene should form in the water column long before reaching the open end of the setup. When the setup is outside you can turn on the camp stove on medium heat and start the distillation.

Procedure Cont:

This reaction creates benzene which is boiled and goes through the distilling setup, and sodium carbonate which is left behind in the paint can as a salt. Rate of distillation should be adjusted so that all cloudy vapor is condensed. If the heat is too high some of the vapor will pass through the condenser. The distillation is complete when no more distillate comes over. With effort the paint can is reusable after cleaning and can be used to make more benzene.

The resulting product will probably not be very clean. To create a purer product follow the procedure below:

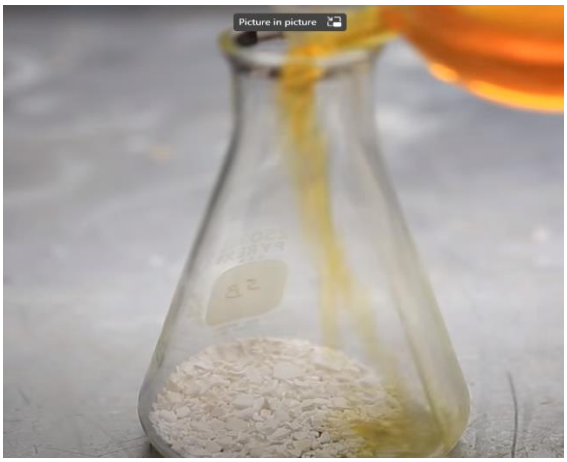
Procedure Cont:

Optional Procedure Start:

Transfer the unclean benzene product into a separatory funnel. Wash benzene twice with roughly 1/3 water. Cap, shake, vent. Allow to settle and then purge water. Repeat this process twice.

Pour into an Erlenmeyer flask containing calcium chloride

which is easy to obtain. This is to dry any possible remaining water. Shake and leave for an hour.



Optional Procedure End.

Procedure Cont:

Transfer benzene into a round bottom flask for distillation. This is done to separate the benzene from the crude form.

Using a water heat bath to heat the benzene with a combination magnetic stirring and heating hot plate (with stirrer inside of the round bottom flask containing crude benzene). The clean benzene should come over at 79 - 80 degrees celsius.

Note this last step may not be necessary for molotovs.

Congratulations, you have benzene!